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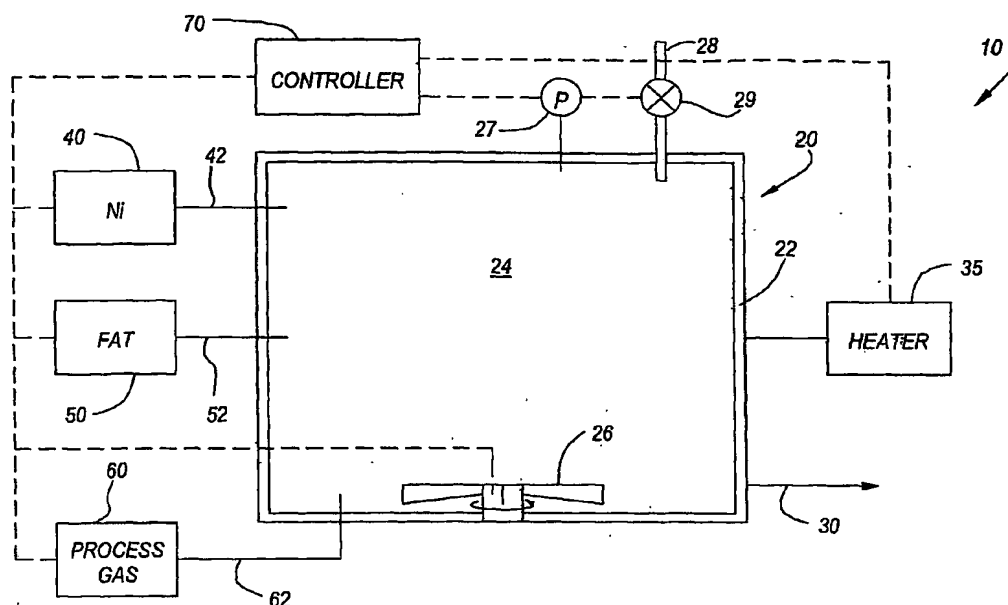
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(54) Title: **LOW TRANS-FATTY ACID FAT COMPOSITIONS; LOW-TEMPERATURE HYDROGENATION, E.G., OF EDIBLE OILS**



(57) Abstract: The present disclosure provides low trans-fatty acid fat compositions, methods of hydrogenating unsaturated feedstocks (e.g., oils), and hydrogenation catalyst compositions. One exemplary method involves producing a catalyst composition by heating a nickel-based catalyst to a first temperature of at least about 85° C in the presence of hydrogen and a fat component. An unsaturated feedstock may be contacted with the catalyst composition and hydrogenated by sustaining a hydrogenation reaction at a second temperature of no greater than about 70° C. Some specific implementations of the invention permit the production of partially hydrogenated seed oils with low *trans*-fatty acid contents.



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